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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/726,689	12/04/2003	Hidetaka Ohazama	107156-00215	5658

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EXAMINER

NGUYEN, DILINH P

ART UNIT	PAPER NUMBER
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2814

DATE MAILED: 06/30/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/726,689	OHAZAMA, HIDETAKA	
	<b>Examiner</b>	<b>Art Unit</b>	
	DiLinh Nguyen	2814	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 06 April 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-10 and 12-15 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-10 and 12-15 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)             | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)    | Paper No(s)/Mail Date. _____  |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____   | 6) <input type="checkbox"/> Other: _____                                    |

## **DETAILED ACTION**

### ***Drawings***

Figure 1B should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). Corrected drawings in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the insulating layers cover said support body (claims 3 and 14); wherein said insulting layers cover said supporting body and wherein edges of the insulating layers (claim 4); insulating layers covered on said surface, a retreated concave portion formed at each edge of said insulting layers (claim 10) and insulating layers; wherein said insulating layers cover the supporting body, wherein edges of said insulating layers (claim 15) must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure

number of an amended drawing should not be labeled as “amended.” If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either “Replacement Sheet” or “New Sheet” pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

#### ***Specification***

Claims 3-4, 10 and 14-15 are objected to because of the following informalities:

The specification fails to disclose the plurality of insulating layers covers the supporting body.

The specification and drawings disclose an insulating layer 33; wherein the insulating layer 33 covers the supporting body 31.

Appropriate correction is required.

#### ***Claim Objections***

Claim 1 is objected to because of the following informalities:

Lines 11-12, claim 1, replace “an accumulating space to prevent” with –an accumulating space preventing--.

Appropriate correction is required.

***Claim Rejections - 35 USC § 112***

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claim 9 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The phrase: "a hole portion formed by penetrating said substrate in respective gaps between said conductive wiring patterns on said substrate" renders the claim indefinite.

It is not clear how a hole portion formed by penetrating said substrate in respective gaps between said conductive wiring patterns on said substrate. Since the specification and the drawings disclose hole portions 31a penetrating the supporting body are formed to serve as accumulating spaces for conductive particles near the edge of the insulating layer in gaps between the wiring patterns on the support body of the interconnection object (fig. 7, page 16, lines 17-22).

***Claim Rejections - 35 USC § 102***

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claim 1 is rejected under 35 U.S.C. 102(b) as being anticipated by Uchiyama (U.S. Pat. 6448663) (newly cited).

Uchiyama discloses an interconnection structure of conductive wirings for interconnecting a pair of interconnection objects by a thermo compression bonding (column 1, line 28), in which the conductive wirings are disposed on the interconnection objects, respectively, comprising:

interconnection portions 130 and 16 formed of conductive wirings patterns on a surface of each supporting body of the interconnection objects 13 and 2, the interconnection portions 130 and 16 being provided with gaps between adjacent ones;

an anisotropic conductive film 6 containing conductive particles 60 therein, the film being interposed between the interconnection portions 130 and 16 disposed on the respective interconnection objects 13 and 2; and

an accumulating space preventing an over-density of the conductive particles 60 flown out from the interconnection portions to the gaps due to the thermo compression bonding from occurring (fig. 4B).

***Claim Rejections - 35 USC § 103***

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 2 and 12-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Uchiyama (U.S. Pat. 6448663) (newly cited) in view of Tsutomu (JP 10-014428) (newly cited).

Art Unit: 2814

- Regarding claims 2 and 13, Uchiyama substantially disclose all the limitations as claimed above except for the accumulating space comprises a concave portion or a hole portion formed on at least one of the supporting bodies of the interconnection objects.

However, Tsutomu discloses a device comprising: an accumulating space comprises a concave portion formed on at least one of the supporting body 2 of the interconnection objections (fig. 1). Therefore, it would have been obvious to one having ordinary in the art at the time the invention was made to modify the device structure of Uchiyama by having the accumulating space comprises a concave portion formed on at least one of the supporting body because as taught by Tsutomu, such concave portion prevent a short circuit is formed between wiring patterns (fig. 1 and abstract).

- Regarding claim 12, Tsutomu discloses that the accumulating space is formed in the respective gaps between the conductive wiring pattern 3 or between the leads (fig. 1 and abstract).

7. Claims 5-7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Uchiyama (U.S. Pat. 6448663) (newly cited) in view of AAPA.

Uchiyama substantially discloses all the limitations as claimed above except for one of the pair of interconnection objects is a print wiring board or a TAB tape and another one of the pair of interconnection objects is an interconnection portion of a display panel board, wherein the display panel board is a panel board formed of organic EL elements.

However, AAPA discloses the interconnection object is a TAB tape or an interconnection portion of a display panel board, wherein the display panel board is a panel board formed of organic EL elements (page 1, lines 23-25). Therefore, it would have been obvious to one having ordinary in the art at the time the invention was made to form the interconnection object is a TAB tape or an interconnection portion of a display panel board, wherein the display panel board is a panel board formed of organic EL elements because as taught by AAPA into the device structure of Uchiyama to provide the known purpose of assuring in quality and reliability for the interconnection portions.

8. Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Uchiyama (U.S. Pat. 6448663) (newly cited) and AAPA in view of Tsutomu (JP 10-014428) (newly cited).

Uchiyama discloses display having a substrate 2, and interconnection portions 130 and 16 including conductive wiring patterns formed on the substrate, in which the interconnection portions are connected with an interconnection object via an anisotropic conductive film 6 by thermo compression bonding.

Uchiyama does not disclose an organic EL display panel and a concave portion formed in respective gaps between the conductive wiring patterns on the substrate, wherein the concave portion receives conductive particles flown out from the anisotropic conductive film due to the thermo compression bonding.



However, AAPA discloses an organic EL display panel (page 1, lines 23-25) to provide the known purpose of assuring in quality and reliability for the interconnection portion.

Tsutomu discloses a device comprising: a concave portion formed in respective gap between the conductive wiring pattern 3 or leads (abstract) on the substrate 2, wherein the concave portion receives conductive particles flown out from the anisotropic conductive film 6 due to the thermo compression bonding in order to prevent a short circuit is formed between wiring patterns (fig. 1 and abstract).

Therefore, it would have been obvious to one having ordinary in the art at the time the invention was made to modify the device structure of Uchiyama by having the organic EL display panel and the concave portion formed in respective gaps between the conductive wiring patterns because as taught by AAPA and Tsutomu, for providing the known purpose of assuring in quality and reliability for the interconnection portions and preventing a short circuit is formed between wiring patterns.

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to DiLinh Nguyen whose telephone number is (571) 272-1712. The examiner can normally be reached on 8:00AM - 6:00PM (M-F).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wael Fahmy can be reached on (571) 272-1705. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

DLN

A handwritten signature in black ink, appearing to read 'Hoai Pham', with a stylized, flowing script.

**HOAI PHAM  
PRIMARY EXAMINER**